Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

CURRENT LITERATURE

BOOK REVIEWS

Plant pathology

The growing interest in plant pathology is attested by the appearance recently of two new books and a journal dealing with this subject. Of the books, one, by STEVENS and HALL,[1] is the second to appear in the United States within a year. The other, also in English, is by MASSEE.[2] The new journal appears under the name *Phytopathology*, as the official organ of the American Phytopathological Society.

The book by STEVENS and HALL is written to meet the needs of those who are concerned with plant diseases from a practical standpoint, and who wish to identify diseases easily and quickly, and find definite directions for combatting them. In its general scheme it departs considerably from the usual treatment adopted in works on plant diseases. The method of treatment is such as seemed to the writers most serviceable for the end in view. The diseased plant is the important object under discussion. Technical details relating to structure and life histories of fungi are omitted. Characteristics of fungi are described only where the fungus itself is sufficiently conspicuous to form a distinguishing mark by which to recognize the disease, as in mildews. Otherwise reference to the causal organism is limited to the giving of its scientific name after the common name of each disease. This enables one to identify the disease described. In the same way life histories are discussed only in so far as is necessary for the understanding of certain diseases, as in the case of rusts, and then only in their general aspects. In general only such characteristics are mentioned as are obvious to the naked eye and will aid the practical man in identifying the diseases. This method of treatment has permitted an arrangement of the material in the body of the work based on the classification of host plants, instead of the usual arrangement according to the systematic sequence of the fungi.

The book begins with brief introductory sections on general subjects of practical importance, such as fungicides, spraying machinery, cost and profits of spraying, and similar topics. This part is of special value to the practical man, as it brings together information regarding the newer spraying mixtures and methods of combatting diseases which have been published in various papers not easily available. A short chapter on general diseases takes up such diseases as "damping off," which are not restricted to particular species of plants. The rest of the book deals with "Special diseases of crops." The material is arranged according to the agricultural classification of plants, under such heads as pomaceous fruits, drupaceous fruits, small fruits, vegetable and field crops, cereals, fiber plants, trees and timber, and ornamental plants. The descriptions are clear and concise, giving such characteristics as enable the general reader to identify the disease. The book is illustrated by numerous halftones, which, however, are only of fair quality.

---

[1] STEVENS, F. L., and HALL, J. G., Diseases of economic plants. 8vo. pp. x+513. *figs. 214.* New York: The Macmillan Co. 1910. $2.00.

[2] MASSEE, GEORGE, Diseases of cultivated plants and trees. 8vo. pp. xii+602. *figs. 171.* New York: The Macmillan Co. 1910. $2.25.

A feature peculiar to the book is the introduction of a unique popular nomenclature for the diseases described. This feature consists in the uniform construction of popular names, where none exist, by adding the ending -ose to the generic name of the organism causing the disease. Although this method of forming popular names has been used to some extent before by the authors and others, and consequently is not entirely an innovation here, it becomes conspicuous on account of the extent to which the idea is carried out. It is doubtful if such an arbitrarily constructed nomenclature can ever find wide acceptance, or if it is desirable; for popular names arise spontaneously, and have only local but forceful significance, which cannot be attained by names manufactured on a wholesale scale. In this case their acceptance would rather lead to a confusing monotony.

The book will be found extremely useful to those who have to do with the growing of plants. It will enable them readily to renew information on diseases known to them, and to identify new diseases not too obscure. Being alphabetically arranged, the book itself serves as a sort of host index, making the finding of material an easy matter. In each case is given what is known of methods of treatment, the matter of real importance to the grower.

The work of MASSEE is the outcome of the author's well-known *Text-book of plant diseases*, the last revised edition of which appeared in 1903. The growth of plant pathology in the interval has made necessary a complete revision of the text, with the addition of so much new material that the result is a new book. While it follows the general plan of the older work, the treatment of the subject is much more extended, owing partly to the enlarged scope of the new book, but more directly to the amount of new material incorporated and to the fuller treatment accorded to the individual subjects.

The book begins with introductory sections discussing such general subjects as primary and secondary causes of disease, epidemics, infection of plants, the dissemination of fungous diseases, injuries not due to fungi, and other related subjects. Space is also given to the discussion of fungicides and spraying. The American reader will be struck by the absence from this section of a discussion of apparatus for the application of fungicides.

The greater part of the book is taken up with descriptions of diseases and the fungi causing them. This part is arranged according to the groups of fungi, although none of the ordinary systems of classification are followed in detail. In the Pyrenomycetes, for example, the spore characters are taken as the primary basis for the arrangement, thus leading to an association of genera entirely different from that usually found in taxonomic works. By this method of classification, the genera of the Hypocreales and Dothidiales are distributed among the Sphaeriales. In the descriptions both the characteristics of the diseases and the life histories and characteristics of the causal organisms are given. The scheme is similar to that followed in the author's *Text-book*, but the accounts are much more complete as to detail than those of the former work. In the last part of the book some of the diseases and injuries caused by animals are described. Notes on several diseases which could not be incorporated in the body of the work are appended in the addendum. The book is illustrated by halftones of drawings.

The work forms a useful handbook of general information on plant diseases. The older and better known facts receive full and careful treatment, but with regard to the newer facts of plant pathology, the work shows a lack of critical consideration of the literature which greatly impairs its value as a reliable reference book. A few instances illustrating this point may be cited. The rotting of lettuce in greenhouses is still attributed to *Botrytis cinerea* (*Sclerotinia Fuckeliana*) (p. 263), although the investigations of SMITH[3] several years ago have shown that *Sclerotinia Libertiana* is the principal cause of this rot, while *Botrytis*-forms are only of secondary importance. These two fungi, although related, differ greatly in their mode of life, *Botrytis* being a common saprophyte everywhere, while *S. Libertiana* is a soil fungus. This great difference in the mode of life of the two fungi is of importance when methods of combatting them are considered. The wilt disease of cotton and other plants is described (p. 228) under *Neocosmospora* (misspelled *Neocosmopara* in the page-heading, subject-heading, and text, and still different in the index). A symptom of the same disease is described (p. 494) under its old name "Cotton Frenching," caused by *Fusarium vasinfectum*. The genetic relationship between these two fungi has been shown by SMITH.[4] Spraying for peach leaf curl is regarded as of little value because the perennial mycelium of *Exoascus deformans* in the shoots produces a crop of diseased leaves each year in spite of spraying. As a matter of fact, there is no disease that can be controlled with more certainty and with more striking results by spraying than the peach leaf curl. Furthermore, the careful investigations of PIERCE[5] have shown that the origin of the spring infection is still obscure, but that probably the perennial mycelium in the branches has very little to do with the early infection. The common apple blotch fungus the author suggests

---

[3] SMITH, RALPH E., *Botrytis* and *Sclerotinia;* their relation to certain plant diseases and to each other. BOT. GAZETTE **29**:369–407. *pls. 3. figs. 3.* 1900.

[4] SMITH, ERWIN F., Wilt disease of cotton, watermelon, and cowpea. U.S. Dept. Agric., Div. Veg. Physiol. and Path., Bull. 17. 1899.

[5] PIERCE, NEWTON B., Peach leaf curl; its nature and treatment. U.S. Dept. Agric., Div. Veg. Physiol. and Path., Bull. 20. 1900.

(p. 412) is a stage of the apple scab fungus, yet these fungi could scarcely be confounded by one who had seen them. Under the heading "Peach leaf blotch (*Gloeosporium cydoniae* Mont.)," this disease is said to cause spots on the "living leaves of the peach (*Cydonia vulgaris*)." *Sphaeropsis malorum* is described only as a leaf spot disease of the apple, although it has been longest and best known as the cause of the black rot of the fruit, and later as the cause of a serious bark canker of apple trees.

The new journal *Phytopathology* is to be issued for the present as a bimonthly publication of the American Phytopathological Society. The aim, as set forth in the editorial announcement, is "to provide a place for the publication of phytopathological papers which would otherwise be lost or scattered in various places." While much of its space will be occupied by papers read before the society, it is the policy of the editors to make the journal more broadly representative and to open its pages to contributions of value from any source. It is of octavo size, containing at present about 35 pages of text and a number of plates in each issue. The halftone plates are of unusually good quality. The first issue is fittingly introduced by an excellent halftone portrait of DEBARY, with a brief sketch of his life and of the influence of his great personality on the advancement of plant pathology.

Heretofore the chief interest in plant pathology in the United States has been on its economic side, and this side has been highly developed as a result of the facilities for investigation, and for the ready means for publication of results having an economic bearing, offered by the experiment stations. As a result of the emphasis on the economic point of view, little attention has been given to the more fundamental problems relating to the subject. Such phases as the physiological relations between the host and parasite, the changes in metabolism brought about by the parasites, and the enzymatic activities of parasites, have remained almost uninvestigated. A journal like the present one, devoted entirely to the interests of plant pathology and not restricted to the purely economic phases of the subject, will undoubtedly do much to stimulate research in these deeper problems of plant pathology.—H. HASSELBRING.

Fossil plants

The second volume of SEWARD'S *Fossil plants*[6] has remained too long unnoticed by this journal. The first volume appeared in 1898, and the general purpose and method of the work were stated in the review published at that time.[7] The thirteen years that have elapsed have been memorable ones in the history of paleobotany, so that if this second volume had appeared as

---

[6] SEWARD, A. C., Fossil plants; a text-book for students of botany and geology. Vol. II. pp. xxii+624. *figs. 265*. Cambridge: The University Press; New York: G. P. Putnam's Sons. 1910. $5.00.

[7] Rev. in BOT. GAZETTE **26**:59. 1898.